Name:

p1105: Factoring when $a = 1$ (v1)

Example: Factor $x^2 + 5x - 24$

Find two numbers whose product is -24 and whose sum is 5. Focus on finding factor pairs of -24. Eventually you consider 8 and -3 because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 - 5x + 4$

$$(x - 4)(x - 1)$$

2. Factor $x^2 + 8x + 15$

$$(x + 3)(x + 5)$$

3. Factor $x^2 - 14x + 45$

$$(x - 9)(x - 5)$$

4. Factor $x^2 - x - 2$

$$(x - 2)(x + 1)$$

5. Factor $x^2 + 13x + 36$

$$(x + 4)(x + 9)$$

6. Factor $x^2 - x - 42$

$$(x - 7)(x + 6)$$

7. Factor $x^2 + 6x - 16$

$$(x + 8)(x - 2)$$

8. Factor $x^2 + 3x - 18$

$(x - 3)(x + 6)$

9. Factor $x^2 + 11x + 28$

$(x + 7)(x + 4)$

10. Factor $x^2 - 49$

$(x - 7)(x + 7)$

11. Factor $x^2 - 6x + 5$

$(x - 5)(x - 1)$

12. Factor $x^2 - x - 6$

$(x + 2)(x - 3)$

13. Factor $x^2 + 13x + 40$

$(x + 5)(x + 8)$

14. Factor $x^2 + 4x + 3$

$(x + 3)(x + 1)$

15. Factor $x^2 + 8x - 9$

$(x + 9)(x - 1)$